Docket No. 100202987-1

Amendments to the Claims:

There are no claim amendments.

Status of Claims:

Claims 1 and 3-39 are pending for examination.

Claims n/a are added by the present amendment.

Claim ___ is canceled by the present amendment.

Claims 1, 5, 6, 11, 14, 23, 30, 33 are in independent form.

1. (Previously Presented) A micro electro mechanical systems device comprising:

a first set of resistors primarily configured to be energized sufficiently to vaporize fluid, individual resistors of the first set positioned in individual ejection chambers of a micro electro mechanical systems device; and,

a second set of resistors primarily configured to be cooperatively energized sufficiently to heat fluid but not primarily to eject the fluid that causes bubbles present in the fluid to move to prevent occluding of the ejection chambers, the second set of resistors positioned along a fluid feed passageway supplying the ejection chambers.

2. (Canceled).

3. (Original) The micro electro mechanical systems device of claim 1, wherein the second set of resistors is configured to be energized in a pattern designed to move a thermal gradient along the fluid feed passageway.

4. (Original) The micro electro mechanical systems device of claim 1 comprising a print cartridge.

5. (Previously Presented) A micro electro mechanical systems device comprising:

means for supplying fluid along a fluid-feed path to a plurality of ejection chambers, individual ejection chambers comprising an energizing element configured to eject fluid from the individual ejection chamber; and,

means for moving a bubble in a desired direction along the fluid-feed path to prevent the bubble from occluding the fluid feed path and wherein said means for moving does not rely on ejecting fluid from the ejection chambers.

6. (Previously Presented) A micro electro mechanical systems device comprising:

a first set of electrical components primarily configured to be energized sufficiently to vaporize fluid, individual electrical components of the first set positioned in individual ejection chambers of a micro electro mechanical systems device; and,

a second set of electrical components primarily configured to be cooperatively energized sufficiently to heat fluid but not primarily to vaporize the fluid to maintain fluid flow to the ejection chamber, the second set of electrical components positioned along a fluid feed passageway supplying the ejection chambers.

7. (Original) The micro electro mechanical systems device of claim 6, wherein the second set of electrical components comprises transistors.

8. (Original) The micro electro mechanical systems device of claim 6, wherein the second set of electrical components comprises one or more of transistors and resistors.

9. (Original) The micro electro mechanical systems device of claim 6, wherein the first set of electrical components comprises piezoelectric crystals.

10. (Original) The micro electro mechanical systems device of claim 6 comprising a print cartridge.

11. (Original) A micro electro mechanical systems device comprising:

multiple electrical components configured to be energized at a first intensity sufficient to vaporize fluid for ejection from individual ejection chambers of a micro electro mechanical systems device; and,

the multiple electrical components also configured to be cooperatively energized at a second lower intensity sufficient to heat fluid without vaporizing the fluid in a bubble moving pattern designed to move a bubble contained in the fluid in a desired direction.

12. (Original) The micro electro mechanical systems device of claim 11, wherein the desired direction is generally opposite a direction of fluid flow within the micro electro mechanical systems device.

13. (Original) The micro electro mechanical systems device of claim 11, wherein the desired direction is generally toward a structure intended to evacuate bubbles from the micro electro mechanical systems device.

14. (Previously Presented) A micro electro mechanical systems device comprising:

a fluid-feed channel configured to supply fluid to multiple ejection chambers;

a first electrical component configured to be energized sufficiently to vaporize fluid and positioned proximate an individual ejection chamber; and,

a plurality of second electrical components configured to be energized sufficiently to heat fluid in the fluid-feed channel without vaporizing the fluid, wherein individual ones of the second electrical components are configured to be energized in a pattern designed to move a bubble contained in the fluid-feed channel in a desired direction to prevent the bubble from obstructing flow of the fluid to the individual ejection chamber.

15. (Original)The micro electro mechanical systems device of claim 14, wherein the first electrical component comprises one of the plurality of second electrical components.

16. (Original) The micro electro mechanical systems device of claim 14 further comprising a filter configured to filter fluid contained in the fluid-feed channel before the fluid enters the ejection chambers.

17. (Original) The micro electro mechanical systems device of claim 16, wherein the fluid-feed channel is defined, at least in part, by a substrate, and the ejection chambers are positioned over the substrate and wherein the filter comprises a generally planar filter positioned between the substrate and the ejection chambers.

18. (Original) The micro electro mechanical systems device of claim 16, wherein the filter has apertures formed therein through which the fluid flows and wherein the apertures are dimensionally smaller when measured transverse a fluid flow path than individual nozzles formed over respective ejection chambers.

19. (Original) The micro electro mechanical systems device of claim 16, wherein the filter has apertures of a first size and a second larger size formed therein through which the fluid flows and wherein the apertures of the first size are dimensionally smaller when measured transverse a fluid flow path than individual nozzles formed over respective ejection chambers.

20. (Previously Presented) The micro electro mechanical systems device of claim 16, wherein the pattern is designed to move a bubble located between the ejection chambers and the filter in a desired direction.

21. (Original) The micro electro mechanical systems device of claim 20, wherein the desired direction is generally opposite a direction of fluid flow proximate the second set of electrical components.

22. (Original) The micro electro mechanical systems device of claim 14, comprising a print cartridge.

23. (Previously Presented) A method comprising:

energizing one or more electrical components proximate to an amount of fluid contained in a micro electro mechanical systems device to create a thermal gradient in the fluid and not to vaporize the fluid; and,

responsive to said energizing, moving a bubble which existed prior to said energizing in a desired direction within the micro electro mechanical systems device to prevent the bubble from restricting flow of the fluid.

24. (Original) The method of claim 23, wherein said act of energizing comprises heating.

25. (Original) The method of claim 23, wherein said act of energizing comprises energizing multiple ones of the electrical components in a sequential pattern configured to move the bubble in a desired direction.

26. (Original) The method of claim 23, wherein said act of energizing comprises repeatedly energizing one or more electrical components to dislodge a bubble from a surface which, at least in part, defines a fluid-feed channel of the micro electro mechanical systems device.

27. (Original) The method of claim 26, wherein said act of energizing comprises heat cycling.

28. (Original) The method of claim 23, wherein said act of energizing comprises energizing the one or more electrical components at a first intensity and wherein the one or more electrical components are configured to cause a portion of the fluid to be ejected from an ejection chamber of the micro electro mechanical systems device when energized at a second higher intensity.

29. (Original) The method of claim 23, wherein said act of moving comprises moving the bubble generally opposite to a direction of fluid flow proximate to the bubble.

30. (Previously Presented) A method comprising:

sequentially energizing multiple electrical components primarily to move a bubble contained in a fluid and not primarily to vaporize the fluid; and,

responsive to said energizing, moving a thermal gradient along the fluid to move the bubble in a desired direction to maintain flow of the fluid.

31. (Original) The method of claim 30, wherein said act of energizing comprises energizing multiple electrical components positioned proximate to a fluid-feed channel defined by a micro electro mechanical systems device.

32. (Original) The method of claim 31, wherein said act of energizing comprises energizing multiple pairs of resistors located in respective pairs of ejection chambers supplied by the fluid-feed channel.

33. (Previously Presented) A method comprising:

first energizing at least one electrical component of a first set of electrical components to cause fluid to be ejected from a micro electro mechanical systems device; and,

second energizing at least one electrical component of a second set of electrical components primarily to move a bubble contained in a fluid to prevent the bubble from blocking ejection of the fluid from the micro electro mechanical systems device and not primarily to vaporize the fluid and not primarily to eject fluid from the micro electro mechanical systems device.

34. (Original) The method of claim 33, wherein said act of second energizing occurs before said first act of energizing.

35. (Original) The method of claim 33, wherein said act of second energizing comprises energizing multiple electrical components of the second set.

36. (Original) The method of claim 33, wherein at least some of the multiple electrical components of the first set also comprise a portion of the second set.

37. (Original) The method of claim 33, wherein said act of first energizing comprises energizing multiple piezoelectric crystals.

38. (Original) The method of claim 33, wherein said act of second energizing comprises energizing multiple transistors.

39. (Original) The method of claim 33, wherein said act of second energizing comprises energizing multiple transistors and multiple resistors.